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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,489	07/18/2003	Robert Louis Cobene II	100110643	2048

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EXAMINER	
GOFF II, JOHN L	
ART UNIT	**PAPER NUMBER**
1733	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/621,489	COBENE, ROBERT LOUIS	
	Examiner	Art Unit	
	John L. Goff	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29 and 31-44* is/are pending in the application.

4a) Of the above claim(s) *1-25 and 36-44* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *26-29 and 31-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/20/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/20/07 has been entered.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 26-29, 31, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka (U.S. Patent 6,024,525) in view of Boss (U.S. Pre-Grant Publication 2001/0019691).

Yamanaka discloses a method of binding a plurality of sheets to form a book-like structure using a clamping apparatus. Yamanaka teaches the method comprises providing an assembly of plural sheets (307 of Figure 2A), providing a backed hot melt adhesive sheet (T of Figure 1), providing a pair of translating clamping jaws comprising a press (730 of Figure 1) and a clamping body (702 and 703 of Figure 1), displacing the clamping jaws a distance greater than the thickness of the assembly of plural sheets, translating a platen (701 of Figure 1) to contact the backed hot melt adhesive sheet and pre-heat the hot melt adhesive to melt the adhesive,

contacting the melted adhesive of the backed hot melt adhesive sheet to a spine surface of the assembly of plural sheets wherein at least one end portion of the sheet protrudes past the spine surface and forms an angle with a plane surface of at least one sheet of the assembly of plural sheets, translating the clamping jaws to apply pressure to the planar surface of the assembly of plural sheets such that the protruding end portion of the backed hot melt adhesive sheet is between the clamping jaws and the assembly of plural sheets and redirected to the planar surface of the assembly of plural sheets, and continually applying heat to the clamping bodies while the melted adhesive flows into at least a portion of the assembly of plural sheets and forms the book-like structure after cooling (Column 4, lines 51-67 and Column 5, lines 41-53). Yamanaka is silent as to including within the clamping jaws (e.g. between the clamping body and press) an active cooling member. Boss discloses a method of binding a plurality of sheets to form a book-like structure using a clamping apparatus. Boss teaches the method comprises providing an assembly of plural sheets (14 of Figure 2) including an adhesive portion along the spine and planar surface of the assembly (12 of Figure 2), providing a clamping jaw (22 of Figure 2) comprising a press (26 of Figure 2), an actively cooled heat sink (30 of Figure 2), and a clamping body (28 of Figure 2), displacing the clamping jaw at a distance greater than the thickness of the assembly of plural sheets, translating the clamping jaw to apply pressure to the planar surface of the assembly of plural sheets, applying heat to the clamping body to melt the adhesive, and then withdrawing heat from the assembly of plural sheets and the clamping body through the actively cooled heat sink to form the book-like structure (Figure 2 and Paragraph 17). Boss teaches including the actively cooled heat sink within the clamping jaw allows rapid heating and cooling of the assembly of plural sheets and clamping body (Paragraph 17). It would have been obvious

to one of ordinary skill in the art at the time the invention was made to include within the clamping jaws (e.g. between the clamping body and press) taught by Yamanaka an active cooling member such as an actively cooled heat sink as shown by Boss to allow rapid heating and cooling of the assembly, and thus, decrease the time required for binding.

Regarding the limitation of removing heat from the hot melt adhesive sheet from above a glass transition temperature of the hot melt adhesive to below the glass transition temperature of the hot melt adhesive, it is noted the adhesive of the backed hot melt adhesive sheet taught by Yamanaka is at its melt temperature, i.e. above its glass transition temperature, when applied to the spine surface of the assembly of plural sheets at which time cooling is then performed as shown by Boss to form the book-like structure into a dimensionally stable, i.e. the adhesive is hardened which is considered a temperature below the glass transition temperature of the adhesive, structure such that it appears this limitation is intrinsically met. In the event it is shown the limitation is not necessarily intrinsic to Yamanaka as modified by Boss the following rejection would apply, it would have been obvious to one of ordinary skill in the art at the time the invention was made to perform Yamanaka as modified by Boss to cool the melted adhesive to its hardened temperature considered a temperature below the glass transition temperature of the adhesive from its melt temperature considered a temperature above the glass transition temperature of the adhesive to rapidly form a dimensionally stable book-like structure.

Regarding claim 29 and the limitation that the hot melt adhesive sheet is softened and raised to a temperature above a glass transition temperature of the hot melt adhesive prior to the sheet contacting the spine surface, Yamanaka teaches the heater (701 as shown in Figures 1 and 12) which preheats the backed hot melt adhesive sheets results in the adhesive in a melted

condition (Column 2, lines 25-30 and Column 5, lines 41-53) which is considered softened and raised to a temperature above a glass transition temperature of the hot melt adhesive, and the melted adhesive is then urged against the spine surface of the plurality of sheets such that Yamanaka as modified by Boss is considered to meet the limitation, it being noted the description in Yamanaka of the heater 701 as shown in Figures 1 and 12 is considered to operate the same in each application.

Regarding claim 35, Yamanaka does not specifically disclose contacting the platens and clamping jaws with the hot melt adhesive sheet simultaneously. However, the apparatus of Yamanaka is capable of doing so such that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in Yamanaka as modified by Boss contacting the platen and clamping jaws with the hot melt adhesive sheet simultaneously as only the expected results of reducing the bonding time would be achieved.

4. Claims 29, 31, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka and Boss as applied above in paragraph 3, and further in view of Yenni et al. (U.S. Patent 6,090,728).

Yamanaka and Boss as applied above are considered to teach the limitation in claim 29 that the hot melt adhesive of the backed hot melt adhesive sheet is softened and raised to a temperature above a glass transition temperature of the hot melt adhesive prior to the sheet contacting the spine surface. In the event, it is shown that the pre-heating taught by Yamanaka does not necessarily meet the limitation the following rejection would apply. Yamanaka pre-heats the backed hot melt adhesive sheet and then redirects the sheet to conform to the spine surface of the assembly of plural sheets, i.e. following heating the sheet is used in a pliable state

to conform to the spine surface. Yenni et al. is taken as exemplary in the bonding art of the term "softening point" of a polymer as associated with its glass transition temperature above which the polymer becomes soft and pliable (Column 5, lines 58-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to perform the pre-heating in Yamanaka as modified by Boss to above the glass transition temperature of the backed hot melt adhesive sheet such that the adhesive becomes soft and pliable and thus capable of being redirected to the planar surface of the assembly of plural sheets as taught by Yamanaka as it is well taken in the bonding art that heating an adhesive sheet such that it is soft and pliable includes heating to above the softening point and glass transition temperature as shown by Yenni et al.

Regarding claim 35, Yamanaka does not specifically disclose contacting the platens and clamping jaws with the hot melt adhesive sheet simultaneously. However, the apparatus of Yamanaka is capable of doing so such that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in Yamanaka as modified by Boss and Yenni et al. contacting the platen and clamping jaws with the hot melt adhesive sheet simultaneously as only the expected results of reducing the bonding time would be achieved.

5. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka and Boss as applied above in paragraph 3, and further in view of Kuramoto et al. (U.S. Pre-Grant Publication 2002/0064437).

Yamanaka and Boss as applied above teach all of the limitations in claims 32 and 33 except for a teaching of attaching the backed hot melt adhesive sheet to the spine surface of the assembly of plural sheets by softening discrete points of the sheet by heating to a temperature

above the glass transition temperature of the hot melt adhesive. Kuramoto et al. disclose a method of binding a plurality of sheets to form a book-like structure using a clamping apparatus. Kuramoto et al. teach the method comprises providing an assembly of plural sheets, contacting a hot melt adhesive sheet to a spine surface of the assembly of plural sheets, melting the hot melt adhesive sheet at discrete points to soften the sheet which is considered to include raising a temperature of the hot melt adhesive above a glass transition temperature of the adhesive, and tack the hot melt adhesive sheet to the spine to prevent displacement of the hot melt adhesive sheet during subsequent processing steps, and then bonding the hot melt adhesive sheet to the spine using a clamping apparatus including an active cooling means to form the book-like structure (Paragraphs 47, 49, and 50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in Yamanaka as modified by Boss a step of tacking the backed hot melt adhesive sheet in discrete points to the spine of the assembly of plural sheets to prevent the backed hot melt adhesive sheet from displacing during clamping and complete bonding as shown by Kuramoto et al.

Response to Arguments

6. Applicant's arguments with respect to claims 26-29 and 32-35 have been considered but are moot in view of the new ground(s) of rejection.

The new limitations in claims 26 and 29 are addressed above.

Regarding applicants arguments to Yamanaka in view of Boss specifically to the size of the heat sink, it is noted these arguments were previously addressed in the paragraph 6 of the office action mailed 11/20/06.

Applicant argues, "The Examiner has asserted on page 4 of the final Office Action, that "Yenni et al. are exemplary in the bonding art of heating a polymer to above its softening point wherein the definition of the term "softening point" for the polymer is associated with its glass transition temperature above which the adhesive becomes soft and pliable." However, the Yenni, Jr. et al. patent merely sets forth the term "softening point" of a polymer being associated with its glass transition temperature above which the polymer becomes soft and pliable (col. 5, lines 58-60). The Yenni, Jr. et al. patent then merely applied the term "softening point" of a polymer to describe fibers that are substantially surrounded by a thermoplastic resin fiber coat (col. 8, lines 22-30). The softening point of 80° C of the enumerated "polymeric materials" as disclosed by the Yenni, Jr. et al. patent (col. 8, lines 28-30) does not serve as being "exemplary in the bonding art of heating a polymer to above its softening point" as the Examiner has asserted. Accordingly, Applicant respectfully traverse the Examiner's ultimate conclusion.".

Yamanaka pre-heats the backed hot melt adhesive sheet and then redirects the sheet to conform to the spine surface of the assembly of plural sheets, i.e. following heating the sheet is used in a pliable state to conform to the spine surface. Yenni et al. is taken as exemplary in the bonding art of the term "softening point" of a polymer as associated with its glass transition temperature above which the polymer becomes soft and pliable (Column 5, lines 58-60). Thus, pre-heating the hot-melt adhesive as taught by Yamanaka such that it may be redirected would have been to above its glass transition temperature such that the sheet is soft and pliable as shown by Yenni et al.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571) 272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John L. Goff
Patent Examiner
Art Unit 1733